

Bachelor of Science (Ecology)

The Degree Coordinator is Professor David Ayre – School of Biological Sciences, telephone (02) 4221 3440, email: dja@uow.edu.au.

The University has one of the strongest ecological research groups in Australia working in marine, freshwater and terrestrial ecology, tropical and temperate ecosystems. Study areas include applications of remote sensing and geographical information systems (GIS), the use of molecular genetics in conservation biology, biodiversity assessment/sampling, environmental impact assessment and experimental ecology. Organisms studied include: endangered plants, marsupial pollinators, marine and arid land birds, invertebrates – from corals to ants and marine and freshwater fish.

Employment opportunities, especially for ecologists with a quantitative background, are in ecosystem management, conservation biology, biodiversity assessment and environmental impacts.

BSc (Ecology) Course Structure **cps** **Session**

First Year

| | | | |
|---------|------------------------------------------------|---|---|
| BIOL104 | Evolution, Biodiversity and Environment | 6 | 1 |
| BIOL103 | Molecules, Cells and Organisms | 6 | 2 |
| EESC102 | Earth Environments and Resources | 6 | 2 |
| EESC103 | Landscape Change and Climatology | 6 | 1 |
| MATH187 | Mathematics 1A, Part 1 (or MATH141 or MATH161) | 6 | 1 |
| MATH188 | Mathematics 1A, Part 2 (or MATH142 or MATH162) | 6 | 2 |

Plus two elective subjects approved by the Coordinator 12

Recommended Electives: Students are strongly advised to enrol in 100-level Chemistry (CHEM101 and CHEM102) to ensure that they also fulfil the first year subject requirements for a major in Biological Sciences.

Total for major at 100-level **48**

Second Year

| | | | |
|---------|-------------------------------------------|---|-----|
| BIOL240 | Functional Biology of Plants and Animals | 6 | 1 |
| BIOL241 | Biodiversity: Classification and Sampling | 6 | 2 |
| BIOL251 | Principles of Ecology and Evolution | 6 | 1 |
| EESC203 | Biogeography and Environmental Change | 6 | 1 |
| EESC204 | Introductory Spatial Science | 6 | 1,2 |
| MATH111 | Applied Mathematical Modelling | 6 | 2 |
| STAT231 | Probability and Random Variables | 6 | 1 |
| STAT232 | Estimation and Hypothesis Testing | 6 | 2 |

One 6-credit point elective subject may be approved by the Coordinator if MATH111 is taken in 1st year.

Total for major at 200-level **48**

Third Year

Core

| | | | |
|---------|----------------------------------------------------------|---|---|
| BIOL351 | Conservation Biology: Marine and Terrestrial Populations | 8 | 1 |
| BIOL355 | Marine and Terrestrial Ecology | 8 | 2 |
| EESC304 | Geographic Information Science | 8 | 2 |
| EESC305 | Remote Sensing of the Environment | 8 | 1 |
| STAT355 | Sample Surveys and Experimental Design* (with project) | 8 | 1 |

Options

Plus one of the following:

| | | | |
|---------|----------------------------------------------|---|-------|
| BIOL332 | Ecological and Evolutionary Physiology | 8 | 1 |
| BIOL392 | Advanced Biology** | 8 | 1,2,3 |
| EESC302 | Coastal Environments: Process and Management | 8 | 2 |
| MARE300 | Fisheries and Aquaculture | 8 | 2 |

Or other subjects approved by the Course Coordinator

Total for major at 300-level **48**

Degree Total **144**

* Entry to this subject requires at least Credit grades in both STAT231 and STAT232

** Entry to this subject requires Distinction average in 200-level Biological Sciences subjects.

Honours

Students may be eligible to enrol in Honours in either the School of Biological Sciences or the School of Earth and Environmental Sciences. Please refer to Section 7.5 for further information about the Honours program including entry requirements, relevant contact details and instructions for how to apply.